A Review of Studies of Quality of Life for Chinese-Speaking Patients with Ischemic Heart Disease

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A B S T R A C T

Objectives: To review published studies of the use of health-related quality-of-life (HRQOL) instruments in patients with ischemic heart disease (IHD) in Chinese-speaking countries/regions, namely, mainland China, Hong Kong, Taiwan, and Singapore. **Methods:** Overlapping searching strategy was used for searching three electronic databases—Cochrane Library, MEDLINE, and Embase—from January 1, 1990, to September 30, 2015. After culling, the identified publications were analyzed according to the publication date, the location where the study was conducted, the disease being studied, and the nature of the study (i.e., whether it was a validation study or an application study). **Results:** There were 109 publications identified for review, of which 15 studies (13.8%) were for validation of HRQOL instruments. Among these studies, most were conducted in China. There were 35 instruments applied and validated in the studies. The most commonly used instruments were the Short Form 36-Item Health Survey and the Seattle Angina Questionnaire. Overall, the number of studies using HRQOL instruments has been increasing in recent years. But there were only two disease-specific instruments validated in Chinese patients with IHD—one was a chronic disease–specific instrument (QLICD-GM) and the other an IHD-specific instrument (QLICD-CHD) validated only in limited sample sizes without data on patients with the three IHD subgroup diseases (angina, myocardial infarction, and heart failure). Three disease-specific instruments were validated in patients with IHD in Hong Kong. No instrument was validated in patients with IHD in Taiwan and Singapore. This showed a lack of adequately validated core IHD instruments in Chinese-speaking countries/regions. **Conclusions:** Considering the substantial negative impact of IHD from economical, clinical, and humanistic perspectives, psychometric evaluation of core IHD-specific instruments is still needed in patients with IHD and IHD subgroup diseases in Chinese-speaking countries/regions.
Keywords: Chinese, instrument, ischemic heart disease, quality of life.

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Introduction

Ischemic heart disease (IHD), also known as coronary artery disease, is a multifactorial process that restricts the blood flow in the coronary arteries. Angina, myocardial infarction (MI), and heart failure (HF) are the three most common forms of IHD, which are three inter-related but clinically distinct conditions [1].

The World Health Organization (WHO) estimated that 17.5 million people died because of cardiovascular diseases (CVDs) in 2012, accounting for 31% of all global deaths [2]. Out of these deaths, an estimated 7.4 million resulted from IHD [2]. IHD was reported as the leading cause of death in the world, representing 13.2% of all deaths in 2012 [3]. To be more specific, in middle- and high-income countries in 2012, IHD was the leading cause of deaths, representing approximately 45% of all deaths in middle-income countries and 37% in high-income countries [3]. Earlier figures also showed IHD accounting for approximately 15.4% of all deaths in Europe [4] and 15.8% in the United States [5].

Besides that, compared with the data in 2010, the data published in the WHO Global Burden of Disease Estimates Report stated that in 2011, IHD-caused deaths ranked second among the 20 leading causes of disability-adjusted years (DALYs) at the global level, and DALY caused by IHD was 159.7 million [6].

Similarly in China, IHD is the second leading cause of cardiovascular deaths. In fact, the Chinese national CVD mortality rate had been increasing from 2004 to 2010 because of the increase in the number of IHD deaths. Out of 2.5 million cardiovascular deaths, 515,000 deaths were caused by IHD in the year 2000 [7]. On average, the number of IHD deaths increased by 5.05% per year [8].

IHD is one of the main causes of not only mortality but also disability. IHD ranked third among the 10 main diseases, representing 7.6% of total DALYs in China [7]. Besides loss in health-related quality of life (HRQOL) and life expectancy, IHD also causes heavy economic burden on patients in China. In terms of financial burden, the cost of illness of patients with IHD also

ranked third among seven main diseases, reaching ¥851 million in 2004 [7].

The WHO has defined health to be "a state of complete physical, mental and social well-being, and not merely the absence of disease" [9]. Therefore, when measuring health and the effects of health care, changes in the frequency and severity of diseases should be included. An evaluation of well-being should be included as well and can be estimated by measuring the improvement in the HRQOL [10].

According to the WHO, quality of life (QOL) is "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns" [10]. QOL has a wide range of different aspects in an individual's life, including health-related, economic, social, political, and cultural aspects. HRQOL is part of a person's overall QOL and is mainly focused on the illness-definition terms, including physical and mental status, impaired role, and social functioning [11,12].

Clinical end points are the traditional measures of the benefits of drugs or interventions. Nevertheless for chronic diseases, taking CVD as an example, HRQOL comprising domains focusing on physical, mental, and social functions would better reflect patients' overall health-related status [13,14]. With chronic diseases becoming more prevalent globally, HRQOL has been attracting more and more attention from patients, clinicians, and regulators in resource allocation and treatment decision making [15–17].

Clinically, IHD affects patients' overall health, including all aspects of their physical, mental, and social well-being. In fact, many patients with IHD suffer from psychological problems (e.g., anxiety and depression) in addition to other physiologic symptoms, such as hypotension and hyperlipoidemia. As such, IHD imposes a heavy humanistic and economic burden on the health care system and the family of the patients [18,19]. Furthermore, because of improved treatment, life expectancy of patients with IHD has been prolonged. In China, survival has increased and life expectancy prolonged, thus requiring longer term management [7]. Hence, patients with IHD will naturally be more concerned about their own QOL [20]. So HRQOL should be assessed in evaluating treatment benefits for patients with IHD.

HRQOL in populations with IHD had been studied using different instruments in China in recent years [21–27]. Nevertheless, viewing the economic, clinical, and humanistic impacts of IHD, these may not represent sufficient effort to systematically deal with the issues. To better understand the current development, and the use of HRQOL instruments in patients with IHD in China to identify knowledge gap and clinical needs, we performed a review examining the use of HRQOL instruments in patients with IHD in Chinese-speaking countries/regions.

Methods

Data Source

The electronic databases MEDLINE, Embase, and Cochrane Library were used in the searching process.

Time Frame

A time frame was set to search all entries published between January 1, 1990, and September 30, 2015. The final search was conducted on September 30, 2015.

Searching Strategy

Publications in English were retrieved by using the keyword filtration process. The keywords "(Quality of Life) AND (Ischemic Heart Disease) AND (China OR Chinese)" were first used for article searching. Then, to be more specific, the keywords "(Quality of Life) AND (Angina) OR (Myocardial Infarction) OR (Heart Failure) AND (China OR Chinese)" were used for searching the second time.

Culling Criteria

Publications that had at least one HRQOL instrument validated or applied in Chinese patients with IHD were included. First, titles
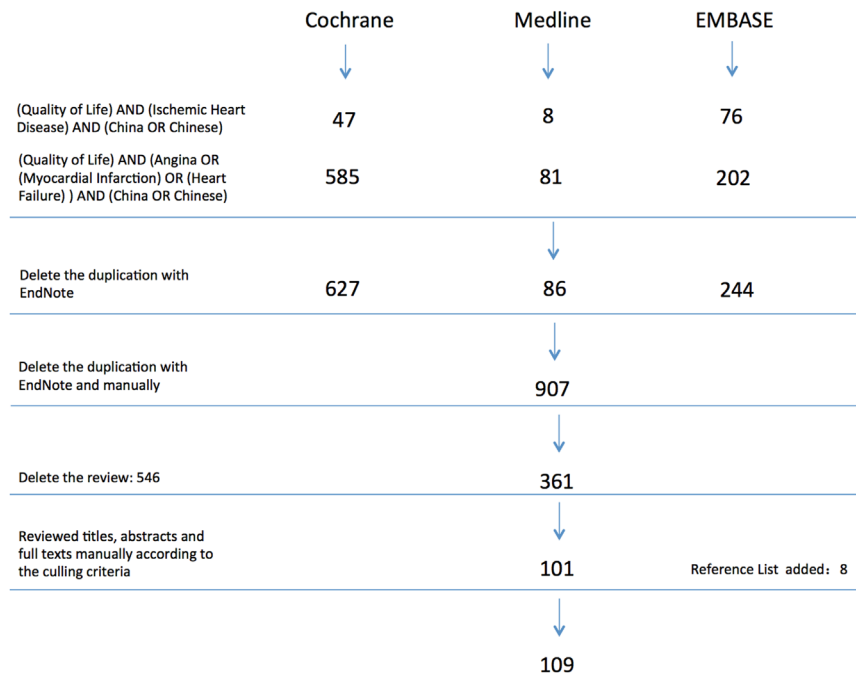

	Cochrane	Medline	EMBASE
(Quality of Life) AND (Ischemic Heart Disease) AND (China OR Chinese)	47	8	76
(Quality of Life) AND (Angina OR (Myocardial Infarction) OR (Heart Failure)) AND (China OR Chinese)	585	81	202
Delete the duplication with EndNote	627	86	244
Delete the duplication with EndNote and manually		907	
Delete the review: 546		361	
Reviewed titles, abstracts and full texts manually according to the culling criteria		101	Reference List added: 8
		109	

Fig. 1 – Flowchart of the publication selection process.